West Virginia **Grade 7**

FlyBy Math™ Alignment
Mathematics Content Standards and Objectives

Standard 1: Number and Operations (MA.S.1)

Students will:
- demonstrate understanding of numbers, ways of representing numbers, and relationships among numbers and number systems;
- demonstrate meanings of operations and how they relate to one another; and
- compute fluently and make reasonable estimates

through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics.

Number and Operations Objectives Students will:	***FlyBy Math*™ Activities**
MA.7.1.7 solve application problems with whole numbers, decimals, fractions and percents.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
MA.7.1.8 use appropriate estimation strategies in problem situations including evaluating the reasonableness of a solution.	--Predict outcomes and explain results of mathematical models and experiments.

Standard 2: Algebra (MA.S.2)

Students will:
- demonstrate understanding of patterns, relations, and functions;
- represent and analyze mathematical situations and structures using algebraic symbols;
- use mathematical models to represent and understand quantitative relationships; and
- analyze change in various contexts

through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics.

Algebra Objectives Students will:	***FlyBy Math*™ Activities**
MA.7.2.6 use ratios and proportions to represent and solve application problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
MA.7.2.11 plot lines within the Cartesian coordinate plane from a table of values.	--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.
MA.7.2.12 determine the slope of a line from its graphical representation.	--Interpret the slope of a line in the context of a distance-rate-time problem.
MA.7.2.13 represent and solve real world problems appropriate for 7th grade using multiple strategies.	--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system. --Use tables, graphs, and equations to solve aircraft conflict problems.

Standard 4: Measurement (MA.S.4)

Students will:

- demonstrate understanding of measurable attributes of objects and the units, systems, and processes of measurement; and
- apply appropriate techniques, tools and formulas to determine measurements

through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics.

Measurement Objectives Students will:	***FlyBy Math*™ Activities**
MA.7.4.1 use and apply formulas in problem solving situations involving perimeter, circumference, area, surface area, distance and temperature (Celsius, Fahrenheit).	--Use the distance-rate-time formula to predict and analyze aircraft conflicts.

Standard 5: Data Analysis and Probability (MA.S.5)

Students will:

- formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them;
- select and use appropriate statistical methods to analyze data;
- develop and evaluate inferences and predictions that are based on models; and
- apply and demonstrate an understanding of basic concepts of probability

through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics.

Data Analysis and Probability Objectives Students will:	***FlyBy Math*™ Activities**
MA.7.5.3 collect, organize, graphically represent, and interpret data displays including: frequency distributions, line-plots, scatter plots, box and whiskers, and multiple-line graphs.	--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs. --Use tables, bar graphs, line graphs, equations, and a Cartesian coordinate system to draw conclusions.